REMARKS

Reconsideration and withdrawal of the rejections set forth in the Office Action dated November 27, 2006, is respectfully requested in view of this amendment. By this amendment, claims 11-14 have been amended and new claims 15 and 16 have been added. Claims 1-16 are pending in this application.

New claims 15 and 16 describe the diaphragm as having a curved edge or rim (7) which effects a variable numerical aperture configured in a manner calculated to substantially reduce vignetting. The reduction of vigenetting has previously been set forth in the claims. Support for this feature is found in the Specification *inter alia*, at page 1, lines 21-27 and page 2, lines 12-13. It is respectfully submitted that the above amendments introduce no new matter within the meaning of 35 U.S.C. §132.

In the outstanding Office Action, the Examiner rejected claims 1-14 under 35 U.S.C. §112, first paragraph, as failing to comply with the enablement requirement. Claim 1 was rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention. Claims 1 and 8 were rejected under 35 U.S.C. §102(a) as anticipated by U.S. Patent No. 5,530,628 (*Ngai*), and claims 2-6 and 9-14 were rejected under 35 U.S.C. §103(a) as being unpatentable over *Ngai*. These rejections, as applied to the revised claims, are respectfully traversed.

Rejections Under 35 U.S.C. §112, First Paragraph

The Examiner rejected claims 1-14 under 35 U.S.C. §112, first paragraph, as failing to meet the enablement requirement. This rejection is respectfully traversed.

Response

Reconsideration and withdrawal of the rejection are respectfully requested.

The cited issue relating to enablement is

> "... at least one diaphragm which effects a variable numerical aperture in the direction of the line, in a manner calculated to substantially reduce vignetting produced by a natural decrease in light intensity associated with an imaging lens." (Claim 1)

The test of whether the 35 U.S.C. §112 enablement requirement is met is whether a person having ordinary skill in the art could make or use the invention without undue experimentation. *United States v. Telectronics, Inc.* 857 F.2d 778, 785 (Fed. Cir. 1988). Factors that should be considered in determining whether a disclosure would require undue experimentation include: 1) the necessary quantity of experimentation; 2) the amount of direction or guidance presented in the specification; 3) the presence or absence of working examples; 4) the nature of the invention; 5) the state of the prior art; 6) the relative skill of those in the art; 7) the predictability of the art; and 8) the claim breadth. *In re Wands,* 858 F.2d 731, 737, (Fed. Cir. 1988). It is improper to conclude that a disclosure is not enabling based on an analysis of only one of the above factors while ignoring one or more of the others. The Examiner's analysis must consider all the evidence related to each of these factors, and any conclusion of non-enablement must be based on the evidence as a whole. *Id.* at 737, 740.

It is respectfully submitted that the above recites both a physical structure ("at least one diaphragm"), a function ("reduce vignetting..."), a description of the function ("vignetting produced by ... decrease in light intensity") and a description of the physical modification of the physical structure to achieve the function ("effects a variable numerical aperture"). The modification is described in terms which are directed to the physical structure ("variable numerical aperture in the direction of the line"). Accordingly the component isn't merely a diaphragm which reduces vignetting, but is a diaphragm which reduces vignetting by a particular design configuration.

Applying the *US v. Telectronics* Factors cited above, 1) the necessary quantity of experimentation is limited to a determination of the numerical aperture, given in the example embodiments as a curved profile of the diaphragm; 2) the specification providing specific direction or guidance presented in the specification in terms of the use of a numerical aperture and the use of a curved diaphragm to achieve that numerical aperture; 3) the presence of working examples as exemplified by Fig. 1; 4) the invention being of the nature of a physical arrangement of the elements, including the use of a diaphram; 5) and 6) the state of the prior art being and the skill required being such that an engineer given instructions to provide a diaphragm would be able to construct such a device; 7) the predictability of the art being such that a diaphragm would be expected to produce similar results; and 8) the claim breadth being limited to the use of a light as claimed.

Regarding the skills required to produce lights whose pattern is controlled by a diaphragm, such diaphragms are in use to control light pattern. For example, projector type headlamps use diaphragms to control the light pattern, for example between ECE ("e-code"), and use different diaphrams with different patterns used for DOT VOL (or conceivably DOT VOR) illumination. Diaphragms are also used to control ECE - RD (Europe) and ECE - LD (UK) illumination either by permanent fitment or by a changeover lever. While these patterns do not suggest Applicant's "variable numerical aperture" or use of the "variable numerical aperture in the direction of the line, in a manner calculated to substantially reduce vignetting produced by a natural decrease in light intensity associated with an imaging lens", the description of a diaphragm as an element in an optical device can be implemented by a skilled artisan by use of the teachings of the present invention.

It is recognized that such illumination essentially does the opposite of what the Applicant does with the light; that is, produce a light which is decidedly not linear; however, given the terminology, "... effects a variable numerical aperture in the direction of the line, an artisan would be able to produce the component. This is a different issue from providing the results of the

invention because the configuration must also be such that the aperture produce the linearity of illumination and in a manner calculated to substantially reduce vignetting ..." Therefore, given the specification and claims, an artisan can produce the desired components.

Accordingly, it is respectfully submitted that the invention, as set forth in claims 1 and 8, meets the enablement requirements of 35 U.S.C. §112, paragraph 1.

Newly- submitted claims 15 and 16 further specify the structure of the invention, by setting forth the curved surface. It is submitted that these claims are likewise enabled under 35 U.S.C. §112, paragraph 1.

Rejections Under 35 U.S.C. §112, Second Paragraph

The Examiner rejected claims 1-14 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention. Specifically, the reference to "designed linearly or being linearly arranged and having at least one linearly formed optical element (2, 10)" was deemed unclear. This rejection is respectfully traversed.

Response

Reconsideration and withdrawal of the rejection are respectfully requested.

35 U.S.C. §112, second paragraph, states that "[t]he specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention."

It is respectfully submitted that claim 1 particularly points out and distinctly claims the invention. In this regard, it is clear that the light is aligned linearly:

"... and having at least one linearly formed optical element (2, 10) ..."

The arrangement is also specified:

"... designed linearly or being linearly arranged ..."

Linear arrangements can be achieved of course by a single tube. While such lamps or their filaments have three dimensions (tubes or coils), it is clear that they are linearly arranged ("designed linearly"). It is also possible to achieve linearity by a series of lamps, such as a row of LCDs ("linearly arranged"). Therefore, the language in the claim clearly sets forth this linear configuration:

> "... designed linearly or being linearly arranged and having at least one linearly formed optical element ..."

Accordingly, it is respectfully submitted that the invention, as set forth in claim 1, meets the enablement requirements of 35 U.S.C. §112, paragraph 2.

Rejection under 35 USC §102

Claim 1 was rejected under 35 USC 102(b) as anticipated by *Ngai*.

Response

For a reference to anticipate an invention, all of the elements of that invention must be present in the reference. The test for anticipation under section 102 is whether each and every element as set forth in the claim is found, either expressly or inherently, in a single prior art reference. *Verdegaal Bros. v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987); MPEP §2131. The identical invention must be shown in as complete detail as is contained in the claim. *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989); MPEP §2131.

Ngai is cited as disclosing a linear light source, a linearly formed optical element and a diaphragm. Applicant's claims define:

> ... a light source (1, 9) ... having at least one linearly formed optical element (2, 10)... at least one diaphragm (6) which effects a variable numerical aperture in the direction of the line, in a manner calculated to substantially reduce vignetting produced by a natural decrease in light intensity associated with an imaging lens. (Claim 1; claim 8 similar.)

There is no suggestion in *Ngai* of the use of diaphragm to effect a variable numerical aperture in the direction of the line. As pointed out above, with respect to 35 U.S.C. §112, paragraph 1, this feature is clearly set forth by Applicant. *Ngai* fails to suggest the use of diaphragm to effects a variable numerical aperture in the direction of the line in a manner calculated to substantially reduce vignetting produced by a natural decrease in light intensity associated with an imaging lens.

Rejections Under 35 U.S.C. §103

The Examiner rejected claims 2-6 and 9-14 under 35 U.S.C. 103(a) in view of *Ngai*.

Response

This rejection is respectfully traversed, and withdrawal of the rejection is respectfully requested.

To establish a *prima facie* case of obviousness, the Examiner must establish: (1) some suggestion or motivation to modify the references exists; (2) a reasonable expectation of success; and (3) the prior art references teach or suggest all of the claim limitations. *Amgen, Inc. v. Chugai Pharm. Co.*, 18 USPQ2d 1016, 1023 (Fed. Cir. 1991); *In re Fine,* 5 USPQ2d 1596, 1598 (Fed. Cir. 1988); *In re Wilson*, 165 USPQ 494, 496 (CCPA 1970).

As pointed out previously, *Ngai* provides an illuminated projector, in which a reflector and a Fresnel lens (or at least a prismatic lens) is used to distribute light. There is no suggesting of any attempt to reduce vignetting, and from the general description in *Ngai*, there is no indication that vignetting would be a design issue in the application described. The purpose is to provide general diffuse lighting to a general area such as a work surface.

Moreover, there is no suggestion in the *Ngai* reference of the features of the use of diaphragm to effects a variable numerical aperture, and the use of diaphragm to effects a variable

numerical aperture in the direction of the line in a manner calculated to substantially reduce vignetting.

Further, as pointed out, there is no motivation in the cited references to modify *Ngai's* diaphragm. As a matter of law, the possibility of modification is hindsight teaching. There must also be a motivation to modify the *Ngai* device. The prior art fails to provide a suggestion whereby a person of ordinary skill in the field of the invention would make the combination. That knowledge cannot come from Applicants' invention itself. *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992).

Applicants therefore submit that in the present case it has not been shown that one constructing the *Ngai* lamp would be motivated to achieve linear illumination while avoiding vignetting. Instead, *Ngai*, uses a Fresnel lens and the reflector to achieve a general illumination, which is made even transversely to the linear direction. *Ngai* fails to suggest providing non vignetting linear illumination and fails to avoid edge vignetting.

It is further pointed out that there is no prior art suggestion of use of a diaphragm for the purpose of avoiding vignetting. There is further no suggestion in the cited art to eliminate edge vignetting by use of a diaphragm, "which effects a variable numerical aperture in a longitudinal direction, in a manner calculated to substantially reduce vignetting produced by a natural decrease in light intensity associated with an imaging lens." (See claim 8; claim 1 similar.)

The dependent claims address specific characteristics of the diaphragm (or variable numerical aperture). Therefore a showing of obviousness under 35 U.S.C. 103(a) would necessarily have to address the diaphragm. It is respectfully submitted that there is no such suggestion in the cited art.

Applicant respectfully requests that the Examiner withdraw the rejections and the case be passed to issuance.

CONCLUSION

In light of the foregoing, Applicants submit that the application is in condition for allowance. If the Examiner believes the application is not in condition for allowance, Applicants respectfully request that the Examiner call the undersigned.

Respectfully submitted,
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